

Enzymatic properties of thiol-dependent serine proteinase of *Bacillus intermedius* 3-19

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Abstract

Effects of a thiol-dependent serine proteinase of *Bacillus intermedius* on peptide substrates and insulin B-chain were studied. The enzyme preferably splits peptide bonds formed by carboxyl groups of hydrophobic amino acids. Ca^{2+} increases the thermal stability of the proteinase significantly. The kinetic characteristics of hydrolysis of Z-Ala-Ala-Leu-pNA by this enzyme was determined as $K_m = 1.25 \text{ mM}$ and $k_{cat} = 0.15 \text{ sec}^{-1}$. The enzyme has high stability to DMFA and isopropanol, and is able to catalyze peptide bond synthesis.

Keywords

Enzymatic synthesis of substrates, Substrate specificity, Thiol-dependent serine proteinase